

**IN THE CLAIMS:**

Please amend claims 1-4, 16, and 35-37 as follows:

Claim 1 (once amended) A cellulosic multi-ply paperboard comprising:

- (a) predominately cellulosic fibers;
- (b) bulk and porosity enhancing additive interspersed with said cellulosic fibers in a controlled distribution throughout the thickness of said paperboard; and
- (c) size press applies binder coating, optionally including a pigment adjacent both surfaces of the paperboard and penetrating into the board to a controlled extent; the overall fiber weight "w" of the paperboard being at least about 40 lbs./3000 square foot ream

- (i) the distribution of the bulk and porosity enhancing additive throughout the thickness of the paperboard, and
- (ii) the penetration of the size press applied pigment coating into the board, both being controlled to simultaneously produce at a fiber mat density of 3, 4.5, 6.5, 7, 8.3 and 9 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively:

(A) a GM Taber stiffness of at least about  $[0.00716 w^{2.63}]$   
 $0.00501 w^{2.63}$  grams-centimeter/fiber mat density<sup>1.63</sup> [pounds  
per 3000 square foot ream at a fiberboard thickness of 0.001  
inch]; and

(B) at a fiber mat density of about 3 to 9 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, a GM tensile stiffness of at least  $[1890+24.2 w] \underline{1323+24.2w}$  pounds per inch.

Claim 2 (once amended) The multi-ply paperboard of claim 1 wherein at a fiber mat density of 3, 4.5, 6.5, 7, 8.3, and 9 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, the GM Taber stiffness is at least about  $[0.00501 w^{2.63}] \underline{0.00716w^{2.63}}$  grams-centimeter/fiber mat density<sup>1.63</sup> [pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch], and the GM tensile stiffness is at least  $[1323+24.2 w] \underline{1890+24.2w}$  pounds per inch.

Claim 3 (once amended) The multi-ply paperboard web of claim [2] 1 wherein at a fiber mat density of 3, 4.5, 6.5, 7, and 8.3 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, the GM Taber stiffness is at least  $[0.0084 w^{2.63}] \underline{0.00084w^{2.63}}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00043 w^{2.63}] \underline{0.00043w^{2.63}}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00024 w^{2.63}] \underline{0.00024w^{2.63}}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00021 w^{2.63}] \underline{0.00021w^{2.63}}$  grams-centimeter, and [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, and  $0.00016 w^{2.63}]$

$0.00016w^{2.63}$  grams-centimeter [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch].

Claim 4 (once amended) The multi-ply paperboard web of claim [3] 1 wherein at a fiber mat density of 3, 4.5, 6.5, and 7 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, the GM Taber stiffness is at least [0.0084 w<sup>2.63</sup>]  $0.00084w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, 0.00043 w<sup>2.63</sup>]  $0.00043w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, 0.00024 w<sup>2.63</sup>]  $0.00024w^{2.63}$  grams-centimeter, and [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, and 0.00021 w<sup>2.63</sup>]  $0.00021w^{2.63}$  grams-centimeter [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch].

Claim 16 (once amended) The paperboard of claim 1 wherein the bulk and porosity enhancing additive interspersed throughout the thickness of said paperboard [comprise] comprises continuously or discontinuously coated expanded or unexpanded microspheres.

Claim 35 (once amended) The article of manufacture of claim 34 wherein at a fiber mat density of 3, 4.5, 6.5, 7, 8.3, and 9 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, the GM Taber stiffness is at least about

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[ $0.00501 w^{2.63}$ ]  $0.00716 w^{2.63}$  grams-centimeter/fiber mat density<sup>1.63</sup> [pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch], and the GM tensile stiffness is at least [ $1323+24.2 w$ ]  $1890+24.2 w$  pounds per inch.

Claim 36 (once amended) The article of manufacture of claim [35] 34 wherein at a fiber mat density of 3, 4.5, 6.5, 7, and 8.3 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, the GM Taber stiffness is at least [ $0.0084 w^{2.63}$ ]  $0.00084 w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00043 w^{2.63}$ ]  $0.00043 w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00024 w^{2.63}$ ]  $0.00024 w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00021 w^{2.63}$ ]  $0.00021 w^{2.63}$  grams-centimeter, and [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, and  $0.00016 w^{2.63}$ ]  $0.00016 w^{2.63}$  grams-centimeter [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch].

Claim 37 (once amended) The article of manufacture of claim [36] 34 wherein at a fiber mat density of 3, 4.5, 6.5, and 7 pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch respectively, the GM Taber stiffness is at least [ $0.0084 w^{2.63}$ ]  $0.00084 w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00043$

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$w^{2.63}$ ]  $0.00043w^{2.63}$  grams-centimeter, [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch,  $0.00024 w^{2.63}$ ]  $0.00024w^{2.63}$  grams-centimeter, and [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch, and  $0.00021 w^{2.63}$ ]  $0.00021w^{2.63}$  grams-centimeter [grams-centimeter/fiber mat density<sup>1.63</sup> pounds per 3000 square foot ream at a fiberboard thickness of 0.001 inch].

### **BASIS FOR REISSUE**

U.S. Patent 6,379,497 ("the '497 patent") issued on April 30, 2002, with claims 1-69. Through error, without any deceptive intent, the patentees claimed less than they had a right to claim in the '497 patent. Accordingly, a reissue application is being filed pursuant to 35 U.S.C. § 251. This reissue is being filed on September 15, 2003; because two years have not elapsed since the patent issued, a broadening reissue is available. This preliminary amendment is being filed concurrently with the reissue application.

### **STATUS OF CLAIMS**

Claims 1-69 are pending in this reissue application. Claims 1-4, 16, and 35-37 have been amended. Claims 5-34 and 38-69 remain pending and unchanged.

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